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STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH
Dedicated to protecting and improving the health and environment of the people of Colorado

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October 21, 1993

Mr. Martin Hestmark
U. S. Environmental Protection Agency, Region VIII
ATTN: Rocky Flats Project Manager, 8HWM-RI
999 18th Street, Suite 500, 8WM-C
Denver, Colorado 80202-2405

RE: Comments to TM-3 (Model Description) to Phase I RFI/RI Workplan, Walnut Creek Drainage (OU-6), July, 1993

Dear Mr. Hestmark,

The Colorado Department of Health, Hazardous Materials and Waste Management Division (the Division) has coordinated a review of the subject document. The attached comments are based upon a review by the Department's Air Pollution Control and Water Quality Control Divisions.

If you have any questions concerning the comments, please call Harlen Ainscough of my staff at 692-3337 to coordinate a response.

Sincerely,

Gary W. Baughman

Gary W. Baughman, Chief
Facilities Section
Hazardous Waste Control Program

Attachment

cc: Daniel S. Miller, AGO
Jackie Berardini, CDH-OE
Bill Fraser, EPA

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

Colorado Department of Health

Hazardous Materials & Waste Management Division

Comments

on

TECHNICAL MEMORANDUM NO. 3

TO

FINAL PHASE 1 RFI/RI WORK PLAN

FOR

WALNUT CREEK PRIORITY DRAINAGE

OU-6

ROCKY FLATS PLANT

JULY, 1992

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General Comment: On the surface the selected air models will probably be acceptable for the OU6 area, however, the input data should be monitored carefully.

Specific Comments:

Section 3.2.1: The choice of ONED3 as a contaminant transport model needs more justification. The hydrologic conditions of the colluvium violate almost every assumption the model depends upon: uniformly porous, confined aquifer, homogeneous, isotropic, constant thickness, fully saturated, no density/viscosity differences between source and aquifer, no solute advection or dispersion into or out of the confined aquifer. The text should discuss why these assumptions can be ignored. ONED3 gives concentration as output, the water balance is totally irrelevant to the model. Is the use of this model entirely theoretical or will some of the results be compared to data?

In the second paragraph, page 3-3, it is stated that a water balance and chemical mass balance will be performed to check the reasonableness of the model results. It is not clear that the water balance is part of the conceptual model rather than a check on model output. There is no discussion of how the water balance will be done. What will be included? Very little field data exists for inflow and outflow, the methods used to estimate these flows differ in their complexity and accuracy. What will be done to check the reasonableness of the water balance estimate? The

method to be used for the chemical mass balance is not discussed either. What assumptions and data will be used to calculate the mass balance?

Section 3.5.2: The Model Selection Criteria Evaluation, Selection Criteria 3 and 4 on page 3-16 states, " ... the FDM model has undergone considerable validation and verification." While there has been a considerable amount of work done on and with the FDM model, neither the reviewer, nor the Air Pollution Control Division (APCD) staff, is aware that the model has been validated. The FDM is usable when applied to small areas of relatively flat terrain but does have problems with complex terrain. If the FDM is used, the 191 update version should be used.

Section 3.6: Under the Summary of Parameter Values on page 3-17 is a discussion of the meteorological data to be used. The "met" data from the site is validated, however, consideration should be given to working in the data collected by APCD's three sites on the perimeter of the plant. The data for these sites has been provided to the Plant and additional copies are available if requested from APCD. The data from 1992 would be better for use in the model than 1991, although either would be acceptable.

Table 3.1: In the table effective porosity and bulk density are listed but they are not used in ONED3, what model will they be used in?

Table 3-4: In this table under "Source" the document states, "RFP Site Environmental Report for 1990 (EG&G 1991a)" would be used for "Joint frequency distribution of stability class, wind speed and direction". There should be a later report which would be better.